DOCUMENT RESUME

ED 160 558 **SP 013 055**

AUTHOR Wilson, Maureen C.
TITLE The Effect of Sex Education on Pre-Adolescent Children.
PUB DATE 15 Jun 78
NOTE 17p.

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Birth; Contraception; *Grade 5; *Grade 6; Self Concept; Sex (Characteristics); *Sex Education; *Student Attitudes; *Teaching Methods

ABSTRACT

This study compared the differences in student knowledge and attitudes that occur between two instructional approaches to sex education in the fifth and sixth grade. It was hypothesized that students who had experienced a six-lesson, multi-media sex education program (KIT) plus a one-hour doctor and nurse presentation (DANP) would receive higher knowledge and attitude scores than would students receiving only the DANP approach. Upon completion of the two programs, participating students were administered a thirty-two item questionnaire. Analysis revealed that the gains in knowledge of the KIT plus DANP group as compared to the DANP group were significant. No significant difference was found between groups for the attitudinal questions. A copy of the questionnaire is appended to this report. (Author/JD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

- ED160558

THE EFFECT OF SEX EDUCATION ON PRE-ADOLESCENT CHILDREN

by

MAUREEN C. WILSON

DEPARTMENT OF DEFENSE

OVERSEAS DEPENDENT SCHOOLS

KAISERSLAUTERN, GERMANY

JUNE 15, 1978

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Maureen C. Wilson

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND THE ERIC SYSTEM CONTRACTORS."

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

SP013055

TABLE OF CONTENTS

INTRODUCTION . . . . . page 1.

METHOD . . . . . page 2.

RESULTS . . . . . page 5.

DISCUSSION . . . . . page 8.

APPENDIX . . . . . page 1.

Sex education was a lively and controversial topic in the popular literature during the mid to late '60s and the early '70s. The core issue from which the controversy stemmed was the advisability of sex education curriculum in the schools. After a thorough investigation of the opposing sides of the controversy, Breasted (4) commented that no one ever reported whether sex education had any measurable effect on the youngsters who had been exposed to it.

In the recent literature, sex education courses have been examined (7), instructional trade books analyzed (9), advice given (11), surveys of adolescents reported (1), and sex education in the elementary school pronounced dead (6). Little evidence has been offered regarding the effect of sex education on the pre-adolescent child. However, Berstein and Cowan's extensive work (2,3) was most relevant to this study. Having detailed six Piagetian levels of answers to their question "How do people get babies?" Berstein and Cowan pointed out that what adults have taken as misinformation may largely have been a product of the child's own assimilative process at work on materials with too complex a structure for clear understanding (3). They referred to Turiel who suggested "...that concepts one level beyond the child's original

stage of functioning will be assimilated while prior stages distorted or not comprehended." (3:90)

Sex education at the elementary school level as witnessed by this researcher has been a one hour doctor and nurse presentation (DANP) offered to fifth and six graders by the school nurse and a doctor from the local family health clinic. As preparation for and as a continuation from the DANP approach, this author used the kit, Human Growth and Understanding (KIT) (13). Based on observations made during the use of the KIT, the following questions were formulated: Would the students who had experienced DANP + KIT retain more information than the students who had experienced DANP only? Would the attitudes about their own sexuality and sex education differ between the groups?

METHOD

Design

Two null hypotheses were proposed by the author: 1) There is no significant difference in the knowledge retained by fifth and sixth grade classes who have participated in DANP only and fifth and sixth grade classes who have participated in DANP + KIT. 2) There is no significant difference in the attitudes (about their own sexuality and about gaining information about sex) between fifth and sixth grade classes who have participated in DANP only and fifth and sixth grade classes who have participated in DANP + KIT.

Subjects

The subjects were 102 fifth and sixth grade students in an American military dependent school in Germany. Fifty-four were from two fifth grade classes, and forty-eight were from two sixth grade classes.

Instrument

A 32 item questionnaire was formulated using 24 questions from the worksheets included in the KIT and eight attitudinal statements devised by the author. (See Appendix 1) The multiple choice items drawn from the worksheets were chosen as informational topics discussed in both DANP and KIT. A taped DANP session was used for verification. The questionnaire was also inspected and approved by the classroom teacher of the DANP fifth grade. The eight attitudinal statements pertained to self concept (questions 4,10,19, and 23) and gaining information about sex (questions 7,13,16, and 22). A Likert scale was used with these items.

The questionnaire was analyzed for reliability using the split-half method and the Spearman-Brown formula. The reliability coefficient for the odd vs. even number questions (which included four each of the attitudinal questions) was .709. The reliability coefficient for the entire test was .829, which was significant at the .01 level.

Procedure

DANP

All the subjects attended the sex education class by the doctor and school nurse which included the following in an hour long presentation:

1) Viewing the filmstrip "Health Guidance in Family Living and Sex Education" (12) through frame 54

2) A lecture with schematic chalkboard illustrations

3) An oral question and answer period

4) An answer period for anonymously written questions

KIT

Two classes, one each from the fifth and sixth grade also participated in the sex education classes presented by their classroom teachers using the kit, Human Growth and Development. (11) The KIT version, which was offered in six successive one to two hour class periods included:

1) Six taped lessons on the sex education topics

2) Twelve wall charts correlated with the tapes

3) Six worksheets corresponding with the six tapes

4) Discussions of each tape, chart and worksheet led by the classroom teacher

5) An oral question and answer period during each lesson

6) A question box for anonymously written questions which were answered during each of the six lessons

The questionnaire was admininstered to the four classes in separate sessions. The first session, in which the directions and questionnaire items were read aloud, was

recorded and used for the remaining three sessions. Students followed on their own sheets marking their choices, while their respective classroom teachers monitored the process.

The questionnaires were scored on the knowledge level by giving one point for each informational item answered correctly, and on the attitudinal level by giving points for the Likert scale items in the manner indicated below:

Item #	4	7	10	13	16	19	22	23
Strongly Agree	5	5	5	1	1	1	1	5
ranging to...								
Strongly Disagree	1	1	1	5	5	5	5	1

Eighty-eight questionnaires, twenty-two from each class, were randomly selected for statistical analysis, using the random table of numbers. (8)

RESULTS

The questionnaires were statistically analyzed on two levels; an attitudinal level for which only the scores from the attitudinal questions were used, and a knowledge level for which only the informational questions were used. The F test was applied to both of these.

There was no significant difference between the four classes on the attitudinal questions, $F = .134$ ($F_{.05} = 3.106$). There was a significant difference between the means of the four classes using the knowledge scores.

For these scores, F= 6.762, which as shown on Table 1, is significant at the .01 level.

The t test was then applied. The difference between the means of three classes was found to be significant. (See Table 2) The largest significant difference was found to be between the sixth grade DANP + KIT and the fifth grade DANP, t= 4.104 ($t_{.01}$ = 2.636). The mean difference between the sixth grade DANP + KIT and the sixth grade DANP was 4.36 with t = 3.488, also significant at the .01 level. The difference between the fifth grade DANP + KIT and the fifth grade DANP was significant at the .05 level, t = 2.216 ($t_{.05}$ = 1.99).

The null hypothesis failed to be rejected for the attitudinal level: there was no significant difference on the attitudinal scores between the fifth and sixth grade DANP and the fifth and sixth grade DANP + KIT.

The null hypothesis was rejected for the scores of knowledge, i.e. there was significant difference between the sixth grade DANP + KIT and both the sixth and fifth grade DANP groups. There was a significant difference between the fifth grade DANP + KIT and the fifth grade DANP group . In each of these differences, the DANP + KIT classes had the significantly higher mean scores.

TABLE 1

ANALYSIS OF VARIANCE FOR KNOWLEDGE SCORES

SOURCE	df	SUM OF SQUARES	MEAN SQUARE VARIANCE	SD	F	$\bar{p}$
AMONG the Means of Conditions	3	348.125	116.04		6.76	$F_{.05} = 3.106$
WITHIN Conditions	84	1441.591	17.16	4.14		$F_{.01} = 4.868$
TOTAL	87	1789.716				

TABLE 2

VALUES OF t FOR KNOWLEDGE SCORES

SOURCE	MEAN DIFFERENCE	df	SE_D	t	$\bar{p}$
$\bar{X}_1 - \bar{X}_2$	5.13	84	1.25	4.104	$t_{.05} = 1.99$
$\bar{X}_1 - \bar{X}_3$	4.36	84	1.25	3.488	$t_{.01} = 2.636$
$\bar{X}_4 - \bar{X}_2$	2.77	84	1.25	2.216	

Where $\bar{X}_1$ is the mean of sixth grade DANP + KIT = 21.77

$\bar{X}_2$ is the mean of fifth grade DANP = 16.64

$\bar{X}_3$ is the mean of sixth grade DANP = 17.41

$\bar{X}_4$ is the mean of fifth grade DANP + KIT = 19.41

DISCUSSION

It was important to note that while there was a significant difference between the DANP + KIT groups and the DANP groups in knowledge, there was no significant difference in attitudes. The means for the attutudinal scores ranged from 31.68 to 32.46, showing that the scores were not only very close, but also relatively high. In attempting to account for these results, one must first have considered the uncontrolled variables affecting the study.

The study was conducted four-fifths of the way through the school year, when peer influences from classmates, as well as patterns of modeling adults in the school had already been firmly set.

Although DANP was conducted by both a male and a female adult, the KIT experience was conducted by a female in the fifth and a male in the sixth. The classroom teachers from the DANP groups were likewise a female in the fifth grade and a male in the sixth grade.

Other possibilities that may have accounted for the lack of significant difference in attitudes included the attitudinal questions themselves, i.e. perhaps the questions weren't subtle enough to detect a difference.

The positive attitudes, unaffected by the sex education courses, combined with the significant differences found on the knowledge level bear witness to the Berstein and Cowan findings. (2:3) Berstein said, "The most

effective way to tell children about sex is to provide information matched to their own level of mental development." (2:34) They found that for the most part, eleven and twelve year olds are on one of the following levels: Concrete Physiology, Preformation, or Physicalism. Although there were differences in these levels, basically they all dealt completely with the physical aspects of sex, specifically human reproduction. The DANP + KIT treatment, especially the KIT treatment, reaches children on primarily a physical learning level, with very little discussion of social and moral aspects of human sexuality. Perhaps this focus on the physical aspect of sex determined the outcome of the questionnaire or perhaps, as Berstein and Cowan imply, this is just what students were developmentally ready to assimilate. Further investigations of sex education kits similar to Human Growth and Understanding (13) are needed. A longitudinal study following the development of sex learning through the elementary school years would be very interesting, and would also have practical benefits for educators.

The instrument used for sex education research should be refined to include more attitudinal questions which have been more subtly designed. Construct validity should be established.

In summary, although this study had practical implications for the use of sex education curriculum in the elementary school, further investigations are clearly needed.

APPENDIX 1

HUMAN GROWTH AND DEVELOPMENT QUESTIONNAIRE

Please do not put your names on these papers. This is not a test. No grades will be given for anything put on these papers. I am also a student in school just like you are and your answers on these papers will help me with a homework assignment that I have. I am trying to find out the best way to help students learn about sex and human reproduction. I am doing this because it interests me and so that I can be a better teacher and helper to students. Please fill out these papers as honestly as you can with the answer that you think is best. To make it easier for you, I will read each item to you as you read it.

1. I am a _____.
   a. boy b. girl

2. I am in Room _____.

3. I am _____ years old.

4. I am glad I am a (boy/girl).
   a. strongly agree
   b. agree
   c. undecided
   d. disagree
   e. strongly disagree

5. A nocturnal emission usually occurs when a boy is
   a. asleep
   b. urinating
   c. playing football

6. If an X sperm cell fertilizes an egg cell, the new baby will be:
   a. a boy
   b. a girl

7. I am glad we talked in school about sex and having babies.
   a. strongly agree
   b. agree
   c. undecided
   d. disagree
   e. strongly disagree

8. The muscles of the uterus contract to help push the baby through the birth canal during
   a. menstruation
   b. labor
   c. puberty

9. The first part of the baby's body to come out of the mother is usually
   a. the feet
   b. the arms
   c. the head

10. When I think about my own sex I feel proud.
   a. strongly agree
   b. agree
   c. undecided
   d. disagree
   e. strongly disagree

11. If a baby cries immediately after it is born
   a. that is a good sign
   b. that is a bad sign
   c. that means that the baby has wet diapers

12. The pill, vasectomy and tying the tubes are all methods of
   a. fertilization
   b. menopause
   c. birth control

13. I am too embarrassed to talk to my teacher about sex.
   a. strongly agree
   b. agree
   c. undecided
   d. disagree
   e. strongly disagree

14. One reason for delivering a baby by Caesarean section is that
   a. the baby weighs less than 6 pounds
   b. the birth canal is too small for the baby to get through
   c. the normal birth procedure is too painful

15. Jerry and Jim are identical twins. They must have come from
   a. one egg fertilized by two sperm cells
   b. one egg fertilized by one sperm cell
   c. two eggs fertilized by two sperm cells

16. I am too embarrassed to talk to my parents about how I was born.
   a. strongly agree
   b. agree
   c. undecided
   d. disagree
   e. strongly disagree

17. Sharon and Sheila are fraternal twins. They must have come from
    a. one egg fertilized by two sperm cells
    b. one egg fertilized by one sperm cell
    c. two eggs fertilized by two sperm cells

18. To produce a baby boy it takes
    a. an X chromosome and a Y chromosome
    b. two X chromosomes
    c. two Y chromosomes

19. I am scared when I think about how my body will be changing in the next couple of years.
    a. strongly agree
    b. agree
    c. undecided
    d. disagree
    e. strongly disagree

20. Siamese twins
    a. are twins born in Siam
    b. are fraternal twins
    c. are joined together at some place in their bodies

21. What term is given to the period during which a woman stops ovulating and ceases to have regular menstrual periods?
    a. menopause
    b. ovulation
    c. puberty

22. The best way to learn about sex is to talk to a classmate who is your best friend.
    a. strongly agree
    b. agree
    c. undecided
    d. disagree
    e. strongly disagree

23. My parents were showing their love for each other when I was made.
    a. strongly agree
    b. agree
    c. undecided
    d. disagree
    e. strongly disagree

24 - 25. Choose the correct name of each of the cells pictured below and write it on the line under the picture.

a. egg cell
b. sperm cell

_____ _____

Write the number of each definition in column B next to the correct word it defines in column A.

A	B
_____ breasts	1. male sex organ
_____ egg or ovum	2. union of male and female cells
_____ menstruation	3. connects fetus to mother and passes food and oxygen from mother to the developing baby
_____ reproduction	4. monthly discharge of blood by a female
_____ sperm	5. female organ to hold baby before birth
_____ urinate	6. cell in a woman which can become a new life
_____ uterus	7. plants and animals produce new individuals like themselves
_____ fertilization	8. discharge liquid waste from the body
_____ penis	9. a male's cell that can help form a new life
_____ umbilical cord	10. glands on the chest to feed babies

REFERENCES

1. BARROW, L.H., "Study of seventh graders' comprehensions of human reproduction concepts." Journal of School Health, 47: 119-121, 1977.

2. BERSTEIN, A., "How children learn about sex and birth." Psychology Today, 9: 31-35, 1976.

3. BERSTEIN, A., AND COWAN, P., "Children's concepts of how people get babies." Child Development, 46: 77-92 1975.

4. BREASTED, M., Oh! Sex Education! New York, N.Y., Praeger Publishers, 1970.

5. GARRETT, H.E., Statistics In Psychology And Education, New York, N.Y., David McKay Company, Inc., 1966.

6. GORDON, S., "Sex education is dead in the elementary schools; interview by J. D. Heisner." Instructor, 86: 132, 1977.

7. MOGLIA, R., AND WHEELER, I., "Primary-grade sex education materials are hard to find." Teacher, 94: 80-81, 1976.

8. OSTLE, B., Statistics in Research, Ames, Iowa, The Iowa State University Press, 1963.

9. RUBENSTEIN, J.S., WATSON, F.G. AND RUBENSTEIN, H.S., "Analysis of sex education books for adolescents by means of adolescent sexual interests." Adolescence, 12: 293-311, 1977.

10. TURIEL, E. "Developmental processes in the child's moral thinking." In Mussen, P., New Directions in Developmental Psychology. New York, N.Y., Holt, Rinehart and Winston, 1969.

11. YARBER, W.L., "Answering questions about sex." Science Teacher, 44: 20-22, 1977.

FILMSTRIPS AND KITS

12. --------, Health Guidance in Family Living and Sex Education, Monsev, N.Y., Glenn Educational Films, Inc., 1968.

13. --------, Human Growth and Understanding, Kankakee, Illinois, Imperial International Learning Corporation, 1969.